

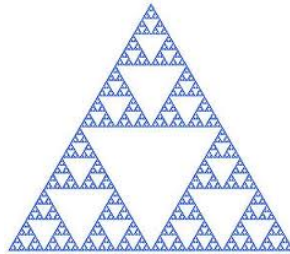
Chapter 5 Angles, Similarity, Transformations

5.1 Lesson Classifying Angles

Unit Question: How do we create from investigating similarities and differences?

Learner Profile: Reflective

Area of Interaction: Human Ingenuity



I Can Statement:

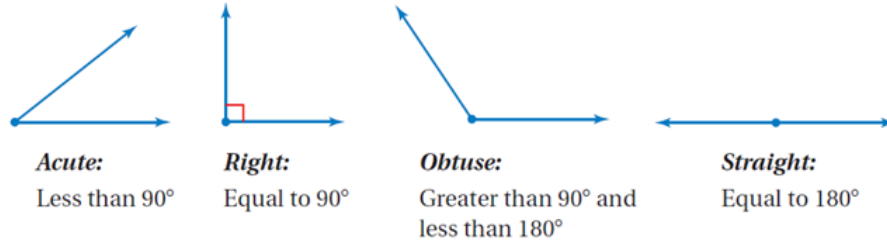
I can find complementary, supplementary, adjacent, and vertical angles.



Essential Question

How can you classify two angles as complementary or supplementary?

Classification of Angles

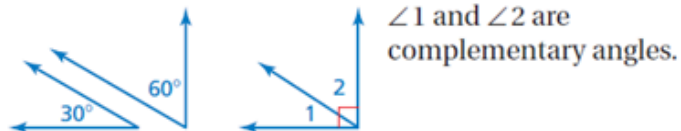


Key Ideas

Complementary Angles

Words Two angles are **complementary angles** if the sum of their measures is 90° .

Examples



$\angle 1$ and $\angle 2$ are complementary angles.

Supplementary Angles

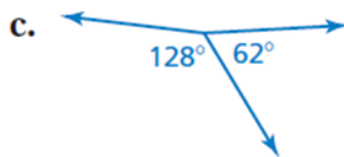
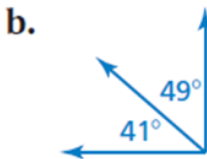
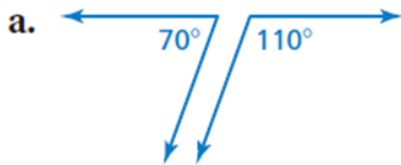
Words Two angles are **supplementary angles** if the sum of their measures is 180° .

Examples

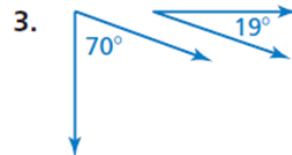
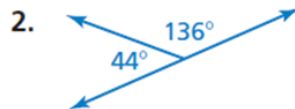
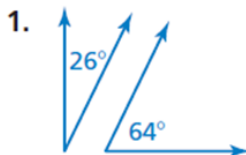


$\angle 3$ and $\angle 4$ are supplementary angles.

Tell whether the angles are complementary, supplementary, or neither.



Tell whether the angles are complementary, supplementary, or neither. More Examples.



Key Ideas

Congruent Angles

Words Two angles are **congruent** if they have the same measure.

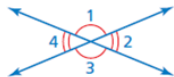
Examples



Vertical Angles

Words Two angles are **vertical angles** if they are opposite angles formed by the intersection of two lines. Vertical angles are congruent.

Examples



$\angle 1$ and $\angle 3$ are vertical angles.

$\angle 2$ and $\angle 4$ are vertical angles.

Adjacent Angles

Words Two angles are **adjacent angles** if they share a common side and have the same vertex.

Examples

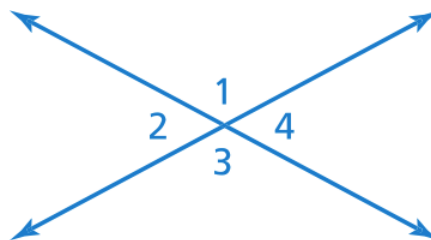


$\angle 1$ and $\angle 2$ are adjacent.

$\angle 2$ and $\angle 4$ are not adjacent.

vertical

The definition of Vertical Lines is related to the **position** of the angles.

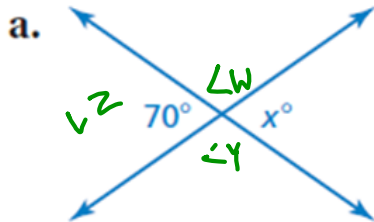


However the definition of Complementary and Supplementary Angles are based on the **measures** of the angles and not the position.

Name the Vertical Angles.

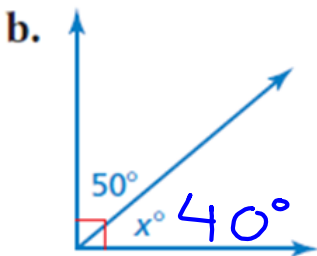
Name the Supplementary Angles.

Find the value of x . Classify the angles as: Complimentary, Supplementary, Congruent, Vertical, or Adjacent.



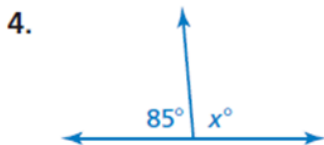
$x = 70^\circ$
vertical
congruent

$\angle x + \angle w$ Supp
 $\angle x + \angle y$

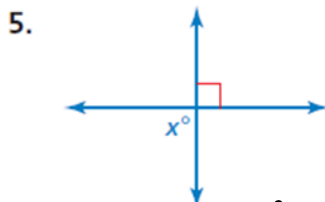


Comp.
adj.

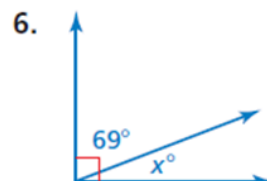
More Examples. Find the value of x . Classify the angles as: Complimentary, Supplementary, Congruent, Vertical, or Adjacent.



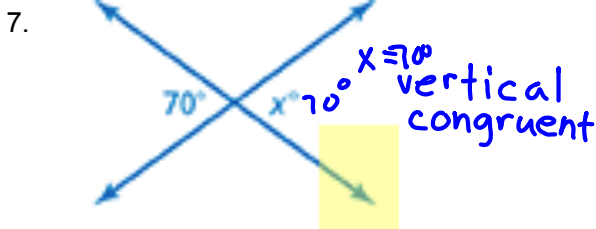
Sup.
 $x = 95$
Adj.



$x = 90^\circ$ verticle
congruent
 $x = 90^\circ$ sup



$x = 21$
comp.
adje.



$x = 70^\circ$
vertical
congruent

Assignment:



Textbook p.188-189
1-5all, 15-16,
17-19(solve for x & classify as in the lesson),
20-25all.